

pressæ (alis tertiâ parte longioris) petala oblonga, basi auriculata, dorso connata. *Stamina* 10, libera, vel imâ basi cohærentia, inæquilongâ, persistentia. *Ovarium* villosissimum, substipitatum, stipitulo basi vaginulâ cincto, paucis (4—6) ovulatum, suturis non inflexis. *Stylus* filiformis, elongatus, apice incurvus, glaber. *Stigma* parvum. *Legumen*—Suffrutex Novæ Hollandiæ Austro-Occidentalis, Brachysemati, R. Br. *proximus*; ramis *erectis vel adscendentibus*; foliis *oppositis, oblongo-ovatis, emarginatis, mucronatis, utrinque reticulatis, margine revolutis, subundulatis, minutè denticulatis*; stipulis *lanceolato-subulatis, demùm deciduis*; floribus *sessilibus, congestis in capitula cernua, 4-flora, bracteis 4 ovatis decussatis, coriaceis, fuscis, extùs sericeis suffulta, ramulos breves axillares terminantia.*

JANSONIA FORMOSA.

Hab. in Novæ Hollandiæ Orâ Austro-Occidentali, ad "Scott's River" (1842), Gilbert (*v. s.*).

Obs. Specimen habitu debiliore, et foliis ramulisque pubescentibus paulò diversum a *D. Jac. Drummond* ad "Swan River" lectum (*v. s. in Herb. D. Lemann*).

The nearest affinity of *Jansonia* is with *Brachysema*, R. Br., with which genus Mr. Kippist states that it agrees in its unguiculate petals, in the form and unusual length of the keel, in the extreme shortness of the standard, in its elongated filiform style, and in its shortly stalked villous germen, surrounded at the base by a minute fleshy ring; but it is abundantly distinguished by its capitate inflorescence, by the remarkable inequality of its calycine segments, by the much greater length of the claws of its petals, and by the paucity of its ovules, which do not appear to exceed six in number. Mr. Kippist also compares it with *Leptosema*, Benth., which is clearly distinguished by its bibracteolate calyx, composed of two nearly equal lips, the uppermost of which is very slightly bifid; its scarcely unguiculate vexillum; its wings about equal in length to the keel; the distinct inflexion of its *carinal* suture; as well as by its inflorescence, that of *Leptosema* being a densely crowded raceme, while in *Jansonia* the flowers are perfectly sessile and arranged in a verticillate manner round a common axis, which is slightly prolonged beyond the point from whence the flowers spring in the form of a short mucro.

The genus is dedicated to the memory of the late Joseph Janson, Esq., F.L.S.; and the paper was accompanied with a drawing of the plant, comprising details of its parts of fructification.

BOTANICAL SOCIETY OF EDINBURGH.

Dec. 9, 1847.—The Rev. Dr. Fleming, President, in the Chair.

The following communications were read:—

1. "On *Anacharis Alsinastrum*, a new British plant," by Chas. C. Babington, Esq., with a synopsis of the other species of the genus, by Dr. J. E. Planchon. See *Annals*, present volume, p. 81.

2. "On the Reproduction of Cryptogamic Plants," by the late William Stark Dougall, Esq., communicated by Dr. Balfour.

The first part of this paper was read—viz. On the mode of formation of spores in *Algæ* and *Characeæ*.

In the introductory remarks, the author examines the opinions entertained by botanists as to the existence, in these plants, of bodies equivalent to the stamens and pistils of the higher orders of vegetables. The arguments in favour of their existence are, the presence in the same or different individuals of two kinds of cells, the union of which in some way appears to be necessary for the production of germinating spores. These cells sometimes exist in the same cavity, so that the functions cannot be always easily detected; at other times they are separate. In the latter case, the spores are occasionally produced by the actual conjugation of two individuals of the same species. The spores, when first discharged, frequently exhibit ciliary movements, like those seen in the ova of animals. And lastly, the cells representing anthers often contain phytozoa, or moving bodies similar to the spermatozoa of animals.

The reproduction of *Algæ* is then brought under consideration as observed in *Diatomaceæ* and *Confervaceæ*, with their cell-division, conjugation, and development of endochrome; in the *Fucaceæ* and *Ceramiaceæ*, with their *antheridia spores* and *tetraspores*; and in *Characeæ*, with their *globule* and *nucule*.

In regard to the latter tribe, the following points are noticed as favouring the opinion that the globule may be compared to an anther and the nucule to the pistil:—their co-existence and close proximity—the opening of the valves of the globule to allow the escape of filaments and phytozoa (similar to those of Fuci, which Thuret and Decaisne have shown to be connected with staminal functions)—the existence of an opening at the apex of the nucule allowing communication with the interior—the capability of germination in the contents of the nucule when mature—and the decadence of the globule prior to the ripening of the nucule.

3. Dr. Balfour read a communication from Mr. Charles Lawson, jun., relative to the cultivation of potatoes by cuttings of the stems. Six cuttings were planted on the 16th of June, 1847, kept in a warm frame for six weeks and then planted out; they produced twenty tubers of very considerable size.

4. Mr. Brand read an extract from a letter from W. A. Stables, Esq., relative to the plantations recently made on Lord Cawdor's estate in Nairnshire:—"The forester planted 230 imperial acres in nine days—57 women and boys being employed each day, and the average number of trees planted by each was 1566 a day. Two-thirds of the plants were larch, and the remainder Scotch fir—in all, 3465 plants per acre. The plants were two-years-old seedlings. The cost of inclosing was 75*l.* 6*s.* 10*d.*, and of planting 16*l.* 8*s.* 8*d.*—together, 92*l.* 5*s.* 6*d.*, or about 7*s.* 7*d.* per acre of outlay."

At this meeting the following gentlemen were elected office-bearers for the ensuing year:—Rev. Dr. Fleming, President; Drs. Greville, Balfour, Christison, Neill, Vice-Presidents; Sir W. Jardine, Bart., Dr. Seller, Dr. Lowe, Mr. W. M'Nab, Mr. C. Lawson, jun., Prof. Allen Thomson, Mr. J. Marshall, jun., Mr. R. Holden, Mr. Wm. Ivory, Mr. W. Wright, Councillors; Mr. Brand, Treasurer; Professor Goodsir, Secretary; Dr. Douglas Maclagan, Foreign Secretary;

Dr. Parnell, Curator of the Museum; Mr. J. M'Nab, Artist; Mr. Evans, Assistant Secretary and Curator.

Jan. 13, 1848.—The Rev. Dr. Fleming, President, in the Chair.

Among specimens of Portuguese plants presented to the Society by Sir Walter C. Trevelyan, were some marked as having been collected in the streets of Cadiz and Lisbon, viz. *Frankenia pulverulenta*, *Illecebrum echinatum*, and *Hippia stolonifera*; these plants are remarkable for their habit of flourishing in the interstices of the paving stones of much-frequented thoroughfares, but growing so close to the ground that they are but little injured by the feet of passengers. The collection also contained specimens of *Statice lusitanica* from Persoon's locality.

The following communications were read:—

1. "On the Reproduction of Cryptogamic Plants," by the late William Stark Dougall, Esq., continued. Part second: Mode of formation of spores in Fungi, Lichens, Musci, and Hepaticæ. In this part of the paper the author first considered the reproductive organs in the various divisions of the natural order *Fungi*, and pointed out the analogy which they bear to *Algæ* in many respects. Thus in the lower members of the order the mode of reproduction may be compared to that observed in *Confervaceæ*, both as regards the development of spores and their movement. In other cases the formation of spores at the dilated ends of filaments or sterigmata resembles in some degree what takes place in *Vaucheria*. He regarded the filamentous paraphyses as being concerned in the fertilization of the contents of the *asci* and *basidia*.

He next noticed the natural order *Lichenes*, and considered the production of spores, whether naked or in *asci*, which are united in the form of *apothecia*; and of the round green bodies called *gonidia* or *gongyli*, which are either single or in groups. He stated that little was known in regard to the formation of the latter bodies, and that the subject of reproduction in Lichens was still very obscure; although it might be said to resemble that of some Ascomycetous Fungi.

The *Ricciaceæ*, *Marchantiaceæ*, and *Jungermanniaceæ* were next brought under notice. In these orders, organs which appear to be equivalent to stamens and pistils were pointed out, as well as certain bodies which might be reckoned as buds or *gemmae*. The presence of phytozoa with cilia and of spiral fibres or elaters was also remarked.

The *Equisetaceæ* were looked upon as in many respects allied to the last-mentioned orders, especially in developing spores with spiral filaments.

The true *Mosses* were then alluded to, and in them the author believed that reproductive organs have been demonstrated in the *antheridia* with their granular contents and phytozoa, and the *theca* or *sporangia* with their spores. He detailed the various species in which phytozoa had been detected by Thuret, Brongniart, Meyen, and Unger, pointed out the monœcious, diœcious, polygamous, and

hermaphrodite arrangement of the organs, noticed the difference between spores and gemmæ, and concluded by stating the following arguments in favour of the sexual nature of the spore-formation in the whole muscal alliance:—1. The existence of antheridia and pistillidia, and the production of true spores by the latter. 2. The existence of phytozoa in the antheridia. 3. The relation of antheridia and pistillidia to one another in point of periodicity, both as regards development and function. 4. Their relative arrangement, either together or separate, on the same or on different individuals. 5. The provisions by which the coming in contact of the contents of the antheridia with those of the pistillidia may be effected.

2. "On the Ovule of *Euphrasia officinalis*," by George Dickie, M.D., Lecturer on Botany, King's College, Aberdeen.

The paper was illustrated by drawings, and will appear in the 'Annals of Natural History' and in the Society's 'Transactions.'

3. Dr. Fleming exhibited a specimen of the stem of *D'Urvillea utilis* (Bory) from Acapulco, and made some remarks on the peculiarity of its structure, more particularly as regards its transverse partitions and large air-cells.

4. Dr. Dickie communicated the discovery of a new Diatomaceous plant, allied to *Meloseira*, in the neighbourhood of Aberdeen. It is the *Orthoseira* of Thwaites, and will be published under the name of *O. Dickiei* (see p. 168 of the present number). Dr. Dickie also announced from Mr. Thwaites the discovery of a new species of *Dickieia*, consisting of binate frustules at the end of mucous appendages, like the *Omacoccus* of Hassall.

Dr. Bell Salter communicated the discovery of *Zostera nana*, in large quantities, on the shores of the Isle of Wight near Ryde.

Mr. Babington sent notices of the following plants having been added to the British Flora since the publication of the second edition of his 'Manual,' specimens of all of which are in his possession, viz. :—*Thalictrum minus* β . *glandulosum*, Koch; *Ranunculus Petiveri* *a. Mairii*, Godr., β . *Candollii*, Godr.; *Sagina ciliata*, Fries; *Campanula rotundifolia* β . *lanceifolia*, Koch; *Simethis bicolor*, Kunth; and *Carex brizoides*, Linn.

Dr. Balfour exhibited specimens of *Ceramium acanthonotum*, from the shores of the Frith of Forth.

MISCELLANEOUS.

BRITISH MOLLUSCA.

THE *Truncatella atomus* of Philippi (Moll. Sic. ii. p. 134. t. 24. f. 5) is found in the following localities mixed with the *Helix nitidissima* of Adams (Linn. Trans. v. p. 4. t. 1. f. 22, 23, 24): Swansea and adjacent bays; Tenby (the locality given by Adams); Weymouth; Scarborough; Falmouth; Cork Harbour; Bantry Bay; Belfast (William Thompson, Esq.), and Skye (George Barlee, Esq.). It appears to be the *Helix bicolor* of Adams (L. T. v. p. 4. t. 1. f. 25, 26, 27), and referable to the genus *Skenea* of Fleming. Philippi has omitted in his figures of the shell to indicate its size, which may have misled